LAKE Calumet
October 1, 1991

DRAFT

NOV 06 1990

PA Scoresheets

PRELIMINARY ASSESSMENT

DRAFT NOV 06 1990

CERCLIS IDENTIFICATION NUMBER	
STATE: IL	SITE NUMBER: D980600362

SITE LOCATION

SITE NAME: Legal, common or descriptive name of site
LAKE Calumet Quadrangle

STREET ADDRESS, ROUTE or SPECIFIC LOCATION IDENTIFIER
810 E. 124 St. / 12400 S. Cottage Grove

CITY	STATE	ZIP CODE	TELEPHONE
Chicago	IL	60628	( ) N/A

COORDINATES: LATITUDE and LONGITUDE	TOWNSHIP, RANGE, and SECTION
41° 40' 17", 87° 36' 05"	T. 37 N., R. 14 E., Sec. 27, N 1/2

OWNER/OPERATOR IDENTIFICATION

OWNER	OPERATOR
Avenue Bank of Oak Park	Inactive
OWNER ADDRESS: 104 N. Oak Park Ave.	OPERATOR ADDRESS:
CITY: Oak Park	CITY:
STATE: IL / ZIP CODE: 60301 / TELEPHONE: (708) 383-5400	STATE: / ZIP CODE: / TELEPHONE: ( )

TYPE OF OWNERSHIP

- ☐ PRIVATE
- ☐ FEDERAL: Agency name _____
- ☐ STATE
- ☐ COUNTY
- ☐ MUNICIPAL
- ☒ OTHER: LAND TRUST #2782
- ☐ NOT SPECIFIED

OWNER/OPERATOR NOTIFICATION ON FILE

- ☐ NONE
- ☒ CERCLA 103 C, UNCONTROLLED WASTE SITE DATE: June 10, 1981
- ☐ RCRA 3001 DATE: _____

SITE STATUS	YEARS OF OPERATION	APPROXIMATE SIZE OF SITE
☐ ACTIVE ■ INACTIVE ☐ UNKNOWN	BEGINNING YEAR: ~1973 ENDING YEAR: ~1980 ☐ UNKNOWN	24

SITE EVALUATION

AGENCY / ORGANIZATION	U.S. EPA / ECOLOGY & ENVIRONMENT, INC.
INVESTIGATOR	DAVE Szaflarski / Ecology & Environment, Inc.
CONTACT	Alan Altur, U.S. EPA
ADDRESS	111 W. Jackson Blvd., Chicago, IL 60604
TELEPHONE	(312) 886-0390 (Alan Altur)
DATE	October 1, 1991

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Site Name: Lake Calumet Quad 2

Date: October 1, 1991

GENERAL INFORMATION

Site Description and Operational History:

The Lake Calumet Quad site is an inactive granary, approximately 24 acres in size, located between 123rd and 130th streets in the south side of Chicago (N1/2 sec. 27, T.37 N., R.14 E.). The site is located approximately 1/2 mile west of Lake Calumet. The site is bordered to the west by the Metropolitan Water Reclamation District of Greater Chicago [formerly known as the Metropolitan Sanitary District (MSD)], Calumet Sewage Treatment Facility (MSD) and to the east by railroad tracks (REF# 1). On April 15, 1966, the Penn Central Corporation leased the property to the Templeton Santa Fe Elevator Corporation which, in turn, assigned the lease to Garvey Grain, Inc. on September 30, 1966 (REF# 1). The site contained a large grain elevator often referred to as the Garvey Grain Elevator, a reference to the company who erected this structure (REF# 2). On January 12, 1972, Garvey Grain, Inc. subleased the site to U.S. Scrap Corporation with

Continued Next Page →

Probable Contaminants of Concern:
(Previous investigations; analytical data)

Note: Levels listed are maximum obtained during all sampling efforts, and are all listed in parts per million (PPM).

IEPA collected on June 17, 24, 1980, Aqueous waste from basement of grain elevator (REF #3, 15, 16).

Cyanide @ 1PPM	Copper @ 0.4PPM	Cadmium @ 0.1PPM
Chromium @ 0.5PPM	Lead @ 0.1PPM	Mercury @ 0.1PPM
Nickel @ 1.0PPM		
Xylene @ 0.72PPM	Aliphatic Hydrocarbons @ 0.94PPM	

STS collected, IEPA analyzed, on June 25, 29, and, October 27, 1981, Groundwater samples from two on-site monitoring wells (located near grain elevator foundation) (REF #4).

Toluene @ 20.00PPM	Lead @ 0.57PPM
Naphthalene @ 1.70PPM	Arsenic @ 0.07PPM
Chromium(total) @ 0.47PPM	Xylenes(total) @ 14.00PPM
Phenol @ 8.90PPM	Copper @ 0.46PPM
Benzene @0.80PPM	Zinc @ 2.0PPM
Nickel @ 2.3PPM	Manganese @ 6.34PPM

4-Methyl-2-Pentanone @ 11.00PPM

Soil samples (taken from borings during installation of monitoring wells) (REF #4).

Aliphatic Hydrocarbons @ 47.00PPM

(Other organic and/or inorganic parameters were not measured for soil samples).

Penn Central Corporation consenting to the lease on January 24, 1972. The lease on the property extended to 1980 (REF# 1).

U.S. Scrap, operated adjacent to the site, and west and adjacent to the MSD property. Steve Martell, owner and operator of the U.S. Scrap site, operated a liquid waste disposal business at U.S. Scrap. Disposal activities began at the U.S. Scrap property in 1965 (REF# 2).

Martell operated the Lake Calumet Quad site from his office on the adjacent U.S. Scrap site. MSD became aware of Mr. Martell's operations at the site in 1973. At that time, Mr. Head, Secretary-Treasurer of U.S. Scrap Corp., told a MSD inspector that U.S. Scrap had possession of the Garvey Grain Elevator, and the inspector noted that liquid waste disposal operations had begun at that time. The MSD inspector also noted that there were clay dikes, a multitude of empty drums, scrap trucks, and truck trailers on the site (photographs were taken to document these observations). An October 1973 MSD interoffice memo describes Mr. Martell's "new base of operations as a form of sludge disposal by mixing sludge with wood chips and turning the mixture over at intervals. Lumber from demolished buildings, and some clay, over which the waste material is apparently spread, and after about a month, the entire pile is reworked." (REF# 1).

On July 31, 1974, MSD personnel noted liquid leaching through a clay berm, onto MSD property. MSD sampled this effluent and found that, on two occasions, it was 100 percent hexane solubles. MSD personnel also stated that Mr. Martell

dumped waste north of the grain elevator, and west of the dirt road, and had also "dug a pit there that was about 20 feet deep". Additional MSD reports indicate liquid wastes were directly dumped onto the ground at the site (REF# 2). At an unknown date Martell disposed of liquid waste in the basement of the grain elevator and stored drums around the elevator which was located in the northern portion of the site REF# 1).

In June, 1980, MSD reported to the Illinois Environmental Protection Agency (IEPA) that the MSD had located two "possible hazardous waste sites" adjacent to MSD property (REF# 2). In that same month, the State of Illinois filed suit against Martell for illegal dumping at several sites including the Lake Calumet Quad site. Shortly after the suit was filed, the Penn Central Corporation conveyed the property to E & E Hauling, Inc., Bloomingdale, Illinois. The site was then placed in a Land Trust No. 2782 with Avenue Bank, Oak Park, IL (REF# 1).

During IEPA's cleanup activities at the site, approximately 400,000 gallons of waste were removed from the grain elevator basement by Chemical Waste Management and were sent to Chicago/CID landfill. The remaining sludge in the basement required 200,000 pounds of lime for neutralization. After this removal the grain elevator was demolished and covered (REF# 1) (REF# 2) (REF# 3).

During 1981, the Illinois Attorney General's Office authorized STS Consultants, Ltd., Northbrook, IL. to perform a contamination survey at both the U.S. Scrap, and Lake

Calumet Quad sites. Subsequent sampling at the site detected contamination in groundwater and soil, although the emphasis of the survey concentrated on the adjacent U.S. Scrap site (REF# 4). In June 1986, FIT performed a site reconnaissance and interviewed site representatives. No sampling was performed at this time (REF# 5).

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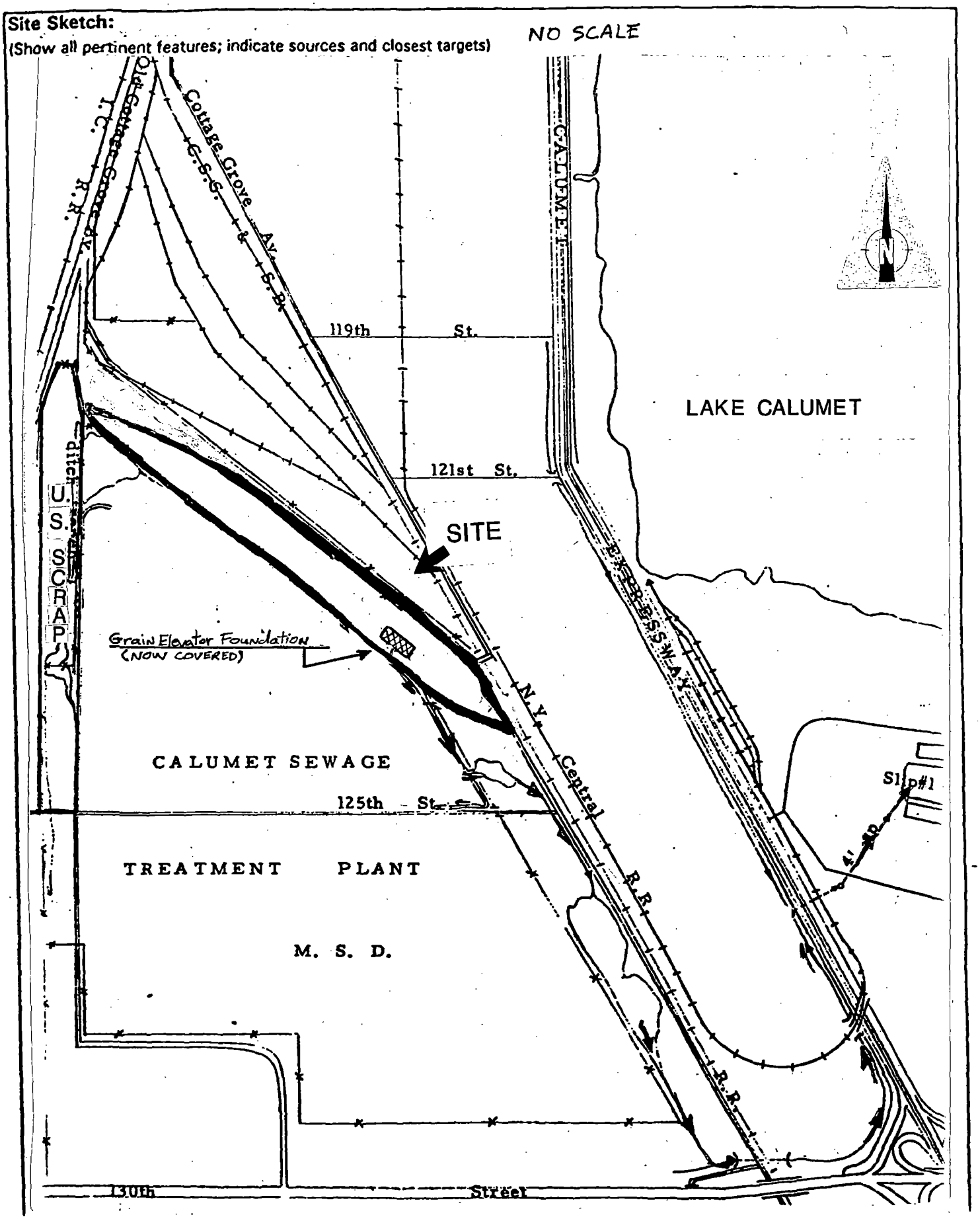
Site Name: LAKE Calumet Quad

Date: October 1, 1991

GENERAL INFORMATION (continued)

Site Sketch:

(Show all pertinent features; indicate sources and closest targets)



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Site Name: LAKE Calumet Quad 4
Date: October 1, 1991

GENERAL INFORMATION (continued)

Source Descriptions:

1. Contaminated Soil. Soil sampling performed by STS and analyzed by the IEPA indicated contaminated soil ON-site. Additionally, site file information indicates disposal occurred directly on the soil. (REF #4)

2. Basement of grain elevator. The basement of the grain elevator was filled at one time with 400,000 gallons of liquid waste. (REF #3)

Waste Characteristics (WC) Calculations:

(See PA Table 1, page 5)

Multiple Source Site

1. Contaminated Soil - Area

Area of site is 24 acres.

[WQ_{CS} 24 acres / 0.78 = 31

2. Tanks and Non-drum containers - Volume

Aqueous waste in basement of grain elevator.

[WQ 400,000 gallons / 500 = 800

WQ Total = 831

WC = 32

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Site Name: Lake Calumet Quad 5
Date: October 1, 1991

PA TABLE 1: WASTE CHARACTERISTICS (WC) SCORES

PA Table 1a: WC Scores for Single Source Sites and Formulas for Multiple Source Sites

TIER	SOURCE TYPE	SINGLE SOURCE SITES (assigned WC scores)			MULTIPLE SOURCE SITES
		WC = 18	*WC = 32*	*WC = 100*	Formula for Assigning Source WQ Values
CONSTITUENT	N/A	≤100 lbs	>100 to 10,000 lbs	>10,000 lbs	*lbs ÷ 1*
WASTESTREAM	N/A	≤500,000 lbs	>500,000 to 50 million lbs	>50 million lbs	*lbs ÷ 5,000*
VOLUME	Landfill	≤6.75 million ft³ ≤250,000 yd³	>6.75 million ft³ to 675 million ft³ >250,000 to 25 million yd³	>675 million ft³ >25 million yd³	*ft³ ÷ 67,500* *yd³ ÷ 2,500*
	Surface impoundment	≤6,750 ft³ ≤250 yd³	>6,750 ft³ to 675,000 ft³ >250 to 25,000 yd³	>675,000 ft³ >25,000 yd³	*ft³ ÷ 67.5* *yd³ ÷ 2.5*
	Drums	≤1,000 drums	>1,000 to 100,000 drums	>100,000 drums	*drums ÷ 10*
	Tanks and non-drum containers	≤50,000 gallons	>50,000 to 5 million gallons	>5 million gallons	*gallons ÷ 500*
	Contaminated soil	≤6.75 million ft³ ≤250,000 yd³	>6.75 million ft³ to 675 million ft³ >250,000 to 25 million yd³	>675 million ft³ >25 million yd³	*ft³ ÷ 67,500* *yd³ ÷ 2,500*
	Pile	≤6,750 ft³ ≤250 yd³	>6,750 ft³ to 675,000 ft³ >250 to 25,000 yd³	>675,000 ft³ >25,000 yd³	*ft³ ÷ 67.5* *yd³ ÷ 2.5*
AREA	Landfill	≤340,000 ft² ≤7.8 acres	>340,000 to 34 million ft² >7.8 to 780 acres	>34 million ft² >780 acres	*ft² ÷ 3,400* *acres ÷ 0.078*
	Surface impoundment	≤1,300 ft² ≤0.029 acres	>1,300 to 130,000 ft² >0.029 to 2.9 acres	>130,000 ft² >2.9 acres	*ft² ÷ 13* *acres ÷ 0.00029*
	Contaminated soil	≤3.4 million ft² ≤78 acres	>3.4 million to 340 million ft² >78 to 7,800 acres	>340 million ft² >7,800 acres	*ft² ÷ 34,000* *acres ÷ 0.78*
	Pile*	≤1,300 ft² ≤0.029 acres	>1,300 to 130,000 ft² >0.029 to 2.9 acres	>130,000 ft² >2.9 acres	*ft² ÷ 13* *acres ÷ 0.00029*
	Land treatment	≤27,000 ft² ≤0.62 acres	>27,000 to 2.7 million ft² >0.62 to 62 acres	>2.7 million ft² >62 acres	*ft² ÷ 270* *acres ÷ 0.0062*

1 ton = 2,000 lbs = 1 yd³ = 4 drums = 200 gallons

* Use area of land surface under pile, not surface area of pile.

PA Table 1b: WC Scores for Multiple Source Sites

WQ Total	*WC Score*
>0 to 100	18
>100 to 10,000	32
>10,000	100

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Site Name: Lake Calumet Quad 6
Date: October 1, 1991

GROUND WATER PATHWAY
GROUND WATER USE DESCRIPTION

Describe Ground Water Use Within 4-miles of the Site:
(Provide generalized stratigraphy; information on aquifers, municipal, and or private wells)

The Lake Calumnet Quad site is located on the glacial Lake Chicago plain. At the site, Niagran dolomite, Silurian age, is overlain by approximately 65 feet of glacial till deposits. The glacial till is comprised of silty clay, with some sand, to clayey, silty sand. The clayey till is in turn overlain by near surface fill materials. These fill materials are randomly placed and vary considerably in characteristics (REF #4) (REF #6).

Communities within a 4-mile radius of the site are supplied with drinking water from the City of Chicago. LAKE Michigan is the source of drinking water for Chicago and all of the communities that are within a 4-mile radius of the site (REF # 7, 8, 9).

Show calculations of ground water drinking water populations:

N/a

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GROUND WATER PATHWAY CRITERIA LIST

Site Name: LAKE Calumet Quad
Date: October 1, 1991

This chart provides guidelines to assist you in hypothesizing the presence of a suspected release and identifying primary targets. It is expected that not all of this information will be available during the PA. Also, these criteria are not all-inclusive; list any other criteria you use to hypothesize a suspected release or to identify primary targets. This chart will record your professional judgment in evaluating these factors.

The "Suspected Release" section of the chart guides you through evaluation of some site, source, and pathway conditions to help hypothesize whether a release from the site is likely. If a release is suspected, use the "Primary Targets" section to guide you through evaluation of some conditions that will help identify targets likely to be exposed to hazardous substances. You may use this section of the chart more than once, depending on the number of targets you feel may be considered "primary." In the "Primary Targets" section on this sheet, record the responses for the well that you feel has the highest probability of being exposed to hazardous substances.

Check the boxes to indicate a "yes", "no", or "unknown" answer to each question. If you check the "Suspected Release" box as "yes", make sure that you assign a Likelihood of Release value of 550 for the pathway.

GROUND WATER PATHWAY

SUSPECTED RELEASE				PRIMARY TARGETS			
Yes	No	Unknown		Yes	No	Unknown	
☒	☐	☐	Are sources poorly contained?	☐	☒	☐	Is any drinking-water well nearby?
☒	☐	☐	Is the source a type likely to contribute to ground water contamination (e.g., wet lagoon)?	☐	☒	☐	Is any nearby drinking-water well closed?
☐	☐	☒	Is waste quantity particularly large?	☐	☒	☐	Has foul-tasting or foul-smelling water been reported by any nearby drinking-water users?
☐	☒	☐	Is precipitation heavy and infiltration rate high?	☐	☒	☐	Do any nearby wells have a large drawdown or high production rate?
☐	☒	☐	Is the site located in an area of karst terrain?	☐	☒	☐	Are drinking-water wells located between the site and other wells that are suspected to be exposed to hazardous substances?
☐	☒	☐	Is the subsurface highly permeable or conductive?	☒	☐	☐	Does any circumstantial evidence of ground water or drinking water contamination exist?
☐	☒	☐	Is drinking water drawn from a shallow aquifer?	☐	☒	☐	Does any drinking-water well warrant sampling?
☒	☐	☐	Are suspected contaminants highly mobile in ground water?	☐	☒		Other criteria? _____
☒	☐	☐	Does any circumstantial evidence of ground water or drinking water contamination exist?	☐	☒		PRIMARY TARGET(S) IDENTIFIED?
☐	☒		Other criteria? _____				
☒	☐		SUSPECTED RELEASE?				

Summarize the rationale for suspected release (attach an additional page if necessary):

On-site groundwater sampling has detected TCL compounds and TAL analytes.

Summarize the rationale for Primary Targets (attach an additional page if necessary):

Groundwater within a 4-mile radius of the site is not used as a source of drinking water (REF 7, 8, 9).

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Site Name: Lake Calumet Quad 8

Date: October 1, 1991

GROUND WATER PATHWAY SCORESHEET

Pathway Characteristics	
Do you suspect a release (see Ground Water Pathway Criteria List, page 7)?	Yes X No ___
Is the site located in karst terrain?	Yes ___ No X
Depth to aquifer:	5-10 ft
Distance to the nearest drinking-water well:	74 miles ft

	A Suspected Release	B No Suspected Release	References
LIKELIHOOD OF RELEASE			
1. SUSPECTED RELEASE: If you suspect a release to ground water (see page 7), assign a score of 550, and use only column A for this pathway.	[550] 550		4
2. NO SUSPECTED RELEASE: If you do not suspect a release to ground water, and the site is in karst terrain or the depth to aquifer is 70 feet or less, assign a score of 500; otherwise, assign a score of 340. Use only column B for this pathway.		[500 or 340]	
LR =	550		
TARGETS			
3. PRIMARY TARGET POPULATION: Determine the number of people served by drinking water from wells that you suspect have been exposed to hazardous substances from the site (see Ground Water Pathway Criteria List, page 7). ___ people x 10 =	0		7,8,9
4. SECONDARY TARGET POPULATION: Determine the number of people served by drinking water from wells that you do NOT suspect have been exposed to hazardous substances from the site, and assign the total population score from PA Table 2. Are any wells part of a blended system? Yes ___ No ___ If yes, attach a page to show apportionment calculations.	0		
5. NEAREST WELL: If you have identified any Primary Targets for ground water, assign a score of 50; otherwise, assign the highest Nearest Well score from PA Table 2. If no drinking-water wells exist within 4 miles, assign a score of zero.	[50,20,10,0,0,0,0,0 or 0] 0	[20,10,0,0,0,0,0 or 0]	
6. WELLHEAD PROTECTION AREA (WHPA): Assign a score of 20 if any portion of a designated WHPA is within ¼ mile of the site; assign 5 if from ¼ to 4 miles.	[20, 5, or 0] N/a	[20, 5, or 0]	
7. RESOURCES: A score of 5 is assigned.	[5] 5	[5] 5	
T =	5		
WASTE CHARACTERISTICS			
8. A. If you have identified any Primary Targets for ground water, assign the waste characteristics score calculated on page 4, or a score of 32, whichever is GREATER; do not evaluate part B of this factor.	[100 or 32] N/a		
B. If you have NOT identified any Primary Targets for ground water, assign the waste characteristics score calculated on page 4.	[100,32, or 18] 32	[100,32, or 18]	
WC =	32		

GROUND WATER PATHWAY SCORE: $\frac{LR \times T \times WC}{82{,}500}$ = [subject to a maximum of 100] 1

LAKE CALUMET QUAD

Site Name:
Date: October 1, 1991

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PA TABLE 2: VALUES FOR SECONDARY GROUND WATER TARGET POPULATIONS

PA Table 2a: Non-Karst Aquifers

Distance from Site	Population	Nearest Well (choose highest)	Population Served by Wells Within Distance Category: 1 to 10	11 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	Population Value
0 to ¼ mile	_____	20	1	2	5	16	52	163	521	1,633	5,214	16,325	_____
> ¼ to ½ mile	_____	18	1	1	3	10	32	101	323	1,012	3,233	10,121	_____
> ½ to 1 mile	_____	9	1	1	2	5	17	52	167	522	1,668	5,224	_____
> 1 to 2 miles	_____	5	1	1	1	3	9	29	94	294	939	2,938	_____
> 2 to 3 miles	_____	3	1	1	1	2	7	21	68	212	678	2,122	_____
> 3 to 4 miles	_____	2	1	1	1	1	4	13	42	131	417	1,306	_____
Nearest Well =		N/a										Score =	N/a

PA Table 2b: Karst Aquifers

Distance from Site	Population	Nearest Well (use 20 for karst)	Population Served by Wells Within Distance Category: 1 to 10	11 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	Population Value
0 to ¼ mile	_____	20	1	2	5	16	52	163	521	1,633	5,214	16,325	_____
> ¼ to ½ mile	_____	20	1	1	3	10	32	101	323	1,012	3,233	10,121	_____
> ½ to 1 mile	_____	20	1	1	3	8	26	82	261	816	2,607	8,162	_____
> 1 to 2 miles	_____	20	1	1	3	8	26	82	261	816	2,607	8,162	_____
> 2 to 3 miles	_____	20	1	1	3	8	26	82	261	816	2,607	8,162	_____
> 3 to 4 miles	_____	20	1	1	3	8	26	82	261	816	2,607	8,162	_____
Nearest Well =		N/a										Score =	N/a

Populations within a 4-mile radius of the site obtain their drinking water from a surface water body (REF# 7, 8, 9)

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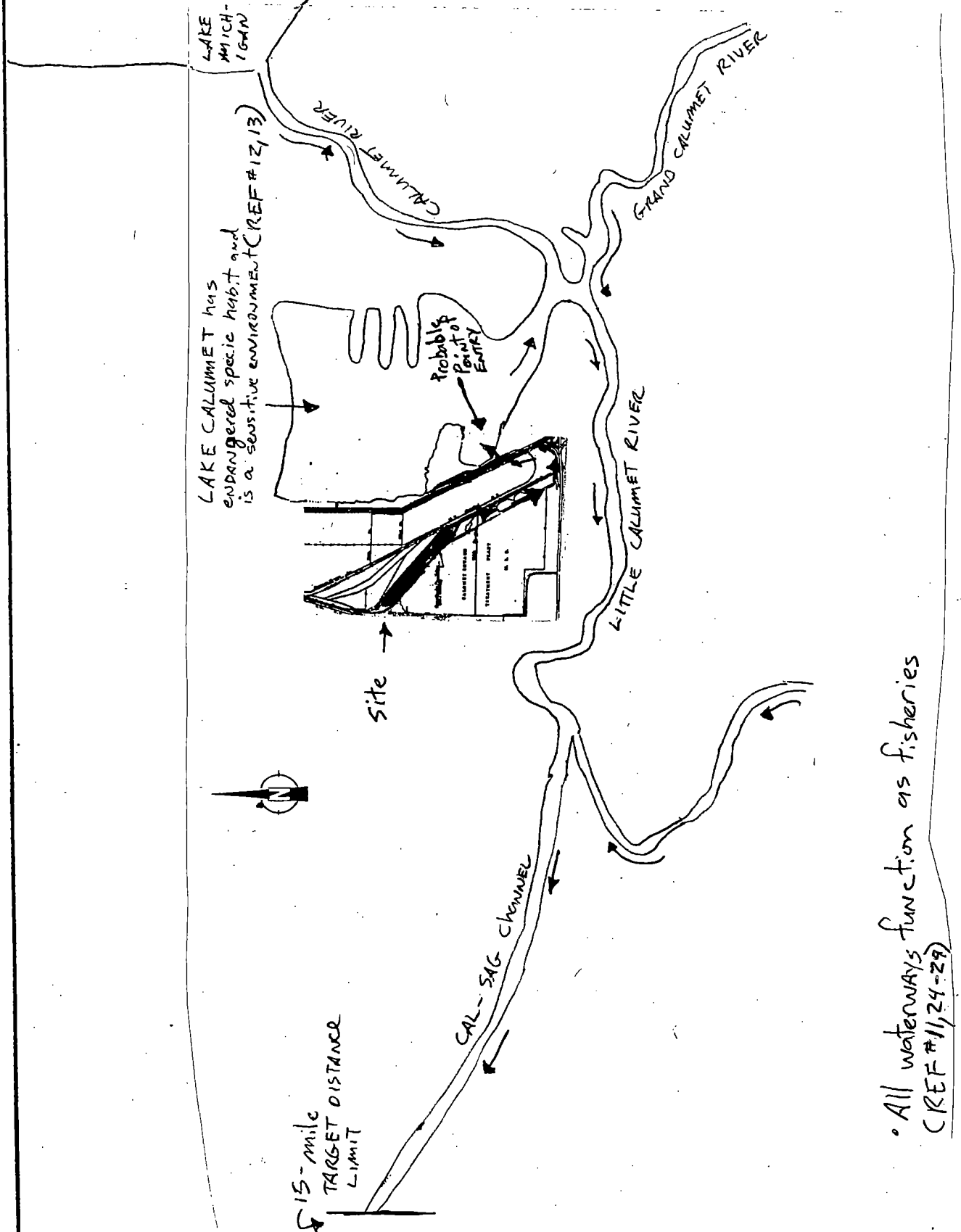
Site Name: LAKE Calumet Quad 10
Date: October 1, 1991

SURFACE WATER PATHWAY
MIGRATION ROUTE SKETCH

Provide a Sketch of the Surface Water Migration Route:
(include runoff route, probable point of entry, 15-mile target distance limit, intakes, fisheries, and sensitive environments)



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SURFACE WATER PATHWAY CRITERIA LIST

Site Name: LAKE Calumet Quad
Date: October 1, 1991

This chart provides guidelines to assist you in hypothesizing the presence of a suspected release and identifying primary targets. It is expected that not all of this information will be available during the PA. Also, these criteria are not all-inclusive; list any other criteria you use to hypothesize a suspected release or to identify primary targets. This chart will record your professional judgment in evaluating these factors.

The "Suspected Release" section of the chart guides you through evaluation of some site, source, and pathway conditions to help hypothesize whether a release from the site is likely. If a release is suspected, use the "Primary Targets" section to guide you through evaluation of some conditions that will help identify targets likely to be exposed to hazardous substances. You may use this section of the chart more than once, depending on the number of targets you feel may be considered "primary." In the "Primary Targets" section on this sheet, record the responses for the target that you feel has the highest probability of being exposed to hazardous substances.

Check the boxes to indicate a "yes", "no", or "unknown" answer to each question. If you check the "Suspected Release" box as "yes", make sure that you assign a Likelihood of Release value of 550 for the pathway.

SURFACE WATER PATHWAY

SUSPECTED RELEASE

Yes	No	Unknown	
☒	☐	☐	Is surface water nearby?
☐	☐	☒	Is waste quantity particularly large?
☒	☐	☐	Is the drainage area large?
☒	☐	☐	Is precipitation heavy or infiltration rate low?
☒	☐	☐	Are sources poorly contained or prone to runoff or flooding?
☒	☐	☐	Is a runoff route well defined (e.g., ditch or channel leading to surface water)?
☐	☒	☐	Is vegetation stressed along the probable runoff path?
☒	☐	☐	Are suspected contaminants highly persistent in surface water?
☐	☒	☐	Are sediments/water unnaturally discolored?
☐	☒	☐	Is wildlife unnaturally absent?
☒	☐	☐	Has deposition of waste into surface water been observed?
☒	☐	☐	Is ground water discharge to surface water likely?
☒	☐	☐	Is there any circumstantial evidence of surface water contamination?
☐	☒		Other criteria? _____
☒	☐		**SUSPECTED RELEASE?**

PRIMARY TARGETS

Yes	No	Unknown	
☒	☐	☐	Is any target nearby? If yes:
			☐ Drinking-water intake
			☒ Fishery
			☒ Sensitive environment
☐	☒	☐	Has an intake, fishery, or recreational area been closed?
☒	☐	☐	Is there any circumstantial evidence of surface water contamination at or downstream of a target?
☒	☐	☐	Does any target warrant sampling? If yes:
			☐ Drinking-water intake
			☒ Fishery
			☒ Sensitive environment
☐	☒		Other criteria? _____
☐	☒		**PRIMARY INTAKE(S) IDENTIFIED?**
☒	☐		**PRIMARY FISHERY IDENTIFIED?**
☒	☐		**PRIMARY SENSITIVE ENVIRONMENT(S) IDENTIFIED?**

Summarize the rationale for suspected release (attach an additional page if necessary):

See next page →

Summarize the rationale for Primary Targets (attach an additional page if necessary):

LAKE Calumet is a known habitat for federal endangered specie (REF # 27) (REF # 28).

While the site was active MSD personnel observed several instances of discolored liquid material originating from the Lake Calumet Quad site and flowing off-site. A drainage ditch (located immediately south of the site) appears to be a potential surface water pathway to Slip #1, Lake Calumet (located approximately 1/2 mile east of the site). This drainage ditch parallels the railroad tracks and drains southward to a drainage located north of 130th street. The flow continues east to the drainage of the clover-leaf exit of the Calumet Expressway. Drainage from this area, west of the expressway is to the east side of the expressway, and eventually drains to Slip #1, Lake Calumet via a 48 inch steel pipe. Sampling performed by the MSD revealed the presence of hexane solubles, phenol, iron, and ammonia (REF #17 - 22).

Additionally, the Piping Plover (Chardrius melodus) is listed as a State and Federal endangered specie with known habitat at Lake Calumet (REF #12, 13).

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Site Name: LAKE Calumet Quad 12
Date: October 1, 1991

SURFACE WATER PATHWAY
LIKELIHOOD OF RELEASE AND DRINKING WATER THREAT SCORESHEET

Pathway Characteristics	
Do you suspect a release (see Surface Water Pathway Criteria List, page 11)?	Yes X No ___
Distance to surface water:	~2700 ft
Flood Frequency:	7500 yrs
What is the downstream distance to the nearest drinking-water intake?	>15 miles
nearest fishery? ~1/2 miles nearest sensitive environment? ~1/2 miles	

LIKELIHOOD OF RELEASE

	A Suspected Release	B No Suspected Release	References
1. SUSPECTED RELEASE: If you suspect a release to surface water (see page 11), assign a score of 550, and use only column A for this pathway.	[550] 550		17, 18, 19, 20, 21, 22
2. NO SUSPECTED RELEASE: If you do not suspect a release to surface water, and the distance to surface water is 2,500 feet or less, assign a score of 500; otherwise, assign a score from the table below. Use only column B for this pathway.		[500, 400, 300 or 100]	
LR =	[550] 550	[500, 400, 300 or 100]	

Floodplain	Score
Site in annual or 10-yr floodplain	500
Site in 100-yr floodplain	400
Site in 500-yr floodplain	300
Site outside 500-yr floodplain	100

DRINKING WATER THREAT TARGETS

3. Determine the water body types, flows (if applicable), and number of people served by all drinking-water intakes within the 15-mile target distance limit. If there are no drinking-water intakes within the target distance limit, assign a total Targets score of 5 at the bottom of this page (Resources only) and proceed to page 14.

Intake Name	Water Body Type	Flow	People Served
N/a		___ cfs	
		___ cfs	
		___ cfs	

4. PRIMARY TARGET POPULATION: If you suspect any drinking-water intake listed above has been exposed to hazardous substances from the site (see Surface Water Pathway Criteria List, page 11), list the intake name(s) and calculate the factor score based on the number of people served.

___, ___,

___ people x 10 = 0 | 0 — 7, 8, 9

5. SECONDARY TARGET POPULATION: Determine the Secondary Target Population score from PA Table 3 based on the populations using drinking-water from intakes that you do NOT suspect have been exposed to hazardous substances from the site.

Are any intakes part of a blended system? Yes ___ No ___
If yes, attach a page to show apportionment calculations.

0

6. NEAREST INTAKE: If you have identified any Primary Targets for the drinking water threat (Factor 4), assign a score of 50; otherwise, assign the Nearest Intake score from PA Table 3. If no drinking-water intake exists within the 15-mile target distance limit, assign a score of zero.

[50, 20, 10, 2, 1, or 0] | [20, 10, 2, 1, or 0]

7. RESOURCES: A score of 5 is assigned.

[S] 5 | [N] 5

T = 5

Site Name: LAKE Calumet Quad
Date: October 1, 1991

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PA TABLE 3: VALUES FOR SECONDARY SURFACE WATER TARGET POPULATIONS

Surface Water Body Flow Characteristics (see PA Table 4)	Population	Nearest Intake (choose highest)	Population Served by Intakes Within Flow Category: 1 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	1,000,001 to 3,000,000	Population Value
<10 cfs	_____	20	2	6	16	52	163	521	1,633	5,214	16,325	52,136	163,246	_____
10 to 100 cfs	_____	2	1	1	2	6	16	52	163	521	1,633	5,214	16,325	_____
>100 to 1,000 cfs	_____	1	0	0	1	1	2	5	16	52	163	521	1,633	_____
>1,000 to 10,000 cfs	_____	0	0	0	0	0	1	1	2	5	16	52	163	_____
>10,000 cfs or Great Lakes	_____	0	0	0	0	0	0	0	1	1	2	5	16	_____
3-mile Mixing Zone	_____	10	1	3	8	26	82	261	816	2,607	8,162	26,068	81,663	_____
Nearest Intake =		0											Score =	0

PA TABLE 4: SURFACE WATER TYPE / FLOW CHARACTERISTICS WITH DILUTION WEIGHTS FOR SECONDARY SURFACE WATER SENSITIVE ENVIRONMENTS

Type of Surface Water Body: Water Body Type	OR Flow Characteristics	Dilution Weight
minimal stream	flow less than 10 cfs	1
small to moderate stream	flow 10 to 100 cfs	0.1
moderate to large stream	flow greater than 100 to 1,000 cfs	N/A
large stream to river	flow greater than 1,000 to 10,000 cfs	N/A
large river	flow greater than 10,000 cfs	N/A
3-mile mixing zone of quiet flowing streams or rivers	flow 10 cfs or greater	N/A
coastal tidal water (harbors, sounds, bays, etc.), ocean, or Great Lakes	N/A	N/A

No Surface Water Intakes are located within 15 miles of the site that are also downstream (REF. 7, 8, 9).

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Site Name: LAKE Calumet Quad 14
Date: October 1, 1991

SURFACE WATER PATHWAY (continued)
HUMAN FOOD CHAIN THREAT SCORESHEET

	A Suspected Release	B No Suspected Release	References
LIKELIHOOD OF RELEASE	[550]	[500,400,300 or 100]	
Enter the Surface Water Likelihood of Release score from page 12. LR =	550		

HUMAN FOOD CHAIN THREAT TARGETS

8. Determine the water body types and flows (if applicable) for all fisheries within the 15-mile target distance limit. If there are no fisheries within the target distance limit, assign a Targets score of 0 at the bottom of this page and proceed to page 15.

Fishery Name	Water Body Type	Flow
LAKE Calumet	Lake	N/a cfs
Little Calumet River	River	185 cfs
Cal-Sag Channel	Channel	9.82 cfs
		cfs
		cfs

10, 11

9. PRIMARY FISHERIES: If you suspect any fishery listed above has been exposed to hazardous substances from the site (see Surface Water Criteria List, page 11), assign a score of 300 and do not evaluate Factor 10. List the Primary Fisheries:
LAKE Calumet, _____,
_____, _____.

[300 or 0] → 300

11

10. SECONDARY FISHERIES: If you have not identified any Primary Fisheries, assign a Secondary Fisheries score from the table below using the LOWEST flow at any fishery within the 15-mile target distance limit.

Lowest Flow	Secondary Fisheries Score
< 10 cfs	210
10 to 100 cfs	30
> 100 cfs, coastal tidal waters, oceans, or Great Lakes	12

[210,30,12 or 0] → —

[300,210,30,12 or 0] | [210,30,12 or 0]

T = 300

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Site Name: LAKE Calumet Quad 15
Date: October 1, 1991

SURFACE WATER PATHWAY (continued)
ENVIRONMENTAL THREAT SCORESHEET

LIKELIHOOD OF RELEASE		A Suspected Release	B No Suspected Release	References
Enter the Surface Water Likelihood of Release score from page 12.	LR =	[550] 550	[500, 400, 300 or 100]	

ENVIRONMENTAL THREAT TARGETS

11. Determine the water body types and flows (if applicable) for all surface water sensitive environments within the 15-mile target distance limit (see PA Tables 4 and 5). If there are no sensitive environments within the 15-mile target distance limit, assign a Targets score of 0 at the bottom of this page, and proceed to page 17.

Environment Name	Water Body Type	Flow
LAKE Calumet	LAKE	N/A cfs
		cfs
		cfs
		cfs
		cfs

References: 10, 11

12. PRIMARY SENSITIVE ENVIRONMENTS: If you suspect any sensitive environment listed above has been exposed to hazardous substances from the site (see Surface Water Criteria List, page 11), assign a score of 300 and do not evaluate Factor 13. List the Primary Sensitive Environments:

LAKE Calumet _____
_____

[300 or 0] 300

References: 11

13. SECONDARY SENSITIVE ENVIRONMENTS:

A. For Secondary Sensitive Environments on surface water bodies with flows of 100 cfs or less, assign scores as follows, and do not evaluate part B of this factor:

Flow	Dilution Weight (PA Table 4)		Environment Type and Value (PA Tables 5 and 6)		Total
cfs		x		=	
cfs		x		=	
cfs		x		=	
cfs		x		=	
cfs		x		=	

Sum = —

B. If NO Secondary Sensitive Environments are located on surface water bodies with flows of 100 cfs or less, assign a score of 10.

[10 or 0] —

[10 or 0]

T = 300

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Site Name: LAKE Calumet Quad
Date: October 1, 1991

PA TABLE 5: SURFACE WATER AND AIR SENSITIVE ENVIRONMENTS VALUES

Sensitive Environment	*Assigned Value*
Critical habitat for Federally designated endangered or threatened species Marine Sanctuary National Park Designated Federal Wilderness Area Ecologically important areas identified under the Coastal Zone Wilderness Act Sensitive Areas identified under the National Estuary Program or Near Coastal Water Program of the Clean Water Act Critical Areas identified under the Clean Lakes Program of the Clean Water Act (subareas in lakes or entire small lakes) National Monument National Seashore Recreation Area National Lakeshore Recreation Area	100
Habitat known to be used by Federally designated or proposed endangered or threatened species National Preserve National or State Wildlife Refuge Unit of Coastal Barrier Resources System Federal land designated for the protection of natural ecosystems Administratively Proposed Federal Wilderness Area Spawning areas critical for the maintenance of fish/shellfish species within a river system, bay or estuary Migratory pathways and feeding areas critical for the maintenance of anadromous fish species in a river system Terrestrial areas utilized by large or dense aggregations of vertebrate animals (semi-aquatic foragers) for breeding National river reach designated as recreational	75
Habitat known to be used by State designated endangered or threatened species Habitat known to be used by a species under review as to its Federal endangered or threatened status Coastal Barrier (partially developed) Federally designated Scenic or Wild River	50
State land designated for wildlife or game management State designated Scenic or Wild River State designated Natural Area Particular areas, relatively small in size, important to maintenance of unique biotic communities	25
State designated areas for the protection/maintenance of aquatic life under the Clean Water Act	5
Wetlands	See PA Table 6 (Surface Water Pathway) or PA Table 9 (Air Pathway)

PA TABLE 6: SURFACE WATER WETLANDS FRONTAGE VALUES

Total Length of Wetlands	*Assigned Value*
Less than 0.1 mile	0
0.1 to 1 mile	25
Greater than 1 to 2 miles	50
Greater than 2 to 3 miles	75
Greater than 3 to 4 miles	100
Greater than 4 to 8 miles	150
Greater than 8 to 12 miles	250
Greater than 12 to 16 miles	350
Greater than 16 to 20 miles	450
Greater than 20 miles	500

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Site Name: LAKE Calumet Quad 17
Date: October 1, 1991

SURFACE WATER PATHWAY (concluded)
WASTE CHARACTERISTICS, THREAT, AND PATHWAY SCORE SUMMARY

WASTE CHARACTERISTICS	A *Suspected Release*	B *No Suspected Release*
14. A. If you have identified ANY Primary Targets for surface water (pages 12, 14, or 15), assign the waste characteristics score calculated on page 4, or a score of 32, whichever is GREATER; do not evaluate part B of this factor. B. If you have NOT identified any Primary Targets for surface water, assign the waste characteristics score calculated on page 4.	[100 = 32] 32 [100,32, = 18]	[100,32, = 18]
WC =	32	

SURFACE WATER PATHWAY THREAT SCORES

Threat	*Likelihood of Release (LR) Score (from page 12)*	*Targets (T) Score*	*Pathway Waste Characteristics (WC) Score (determined above)*	*Threat Score LR x T x WC / 82,500*
Drinking Water	550	5	32	[subject to a maximum of 100] 1
Human Food Chain	550	300	32	[subject to a maximum of 100] 64
Environmental	550	300	32	[subject to a maximum of 60] 60

SURFACE WATER PATHWAY SCORE
(Drinking Water Threat + Human Food Chain Threat + Environmental Threat)

[subject to a maximum of 100]
100

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SOIL EXPOSURE PATHWAY CRITERIA LIST

Site Name: LAKE Calumet Quad
Date: October 1, 1991

This chart provides guidelines to assist you in hypothesizing the presence of a resident population. It is expected that not all of this information will be available during the PA. Also, these criteria are not all-inclusive; list any other criteria you use to hypothesize resident populations. This chart will record your professional judgment in evaluating this factor.

Use the resident population section to guide you through evaluation of some site and source conditions that will help identify targets likely to be exposed to hazardous substances. You may use this section of the chart more than once, depending on the number of nearby people you feel may be considered part of a resident population. Record the responses for the resident population target that you feel has the highest probability of being exposed to hazardous substances.

Check the boxes to indicate a "yes", "no", or "unknown" answer to each question.

SOIL EXPOSURE PATHWAY				
SUSPECTED CONTAMINATION	***RESIDENT POPULATION***			
	Yes	No	Unknown	
Surficial contamination is assumed.	☐	☒	☐	Are there residences, schools, or day care facilities on or within 200 feet of areas of suspected contamination?
	☐	☒	☐	Are residences, schools, or day care facilities located on adjacent land previously owned or leased by the site owner/operator?
	☐	☒	☐	Is there an overland migration route that might spread hazardous substances near residences, schools, or day care facilities?
	☐	☒	☐	Are there any reports of adverse health effects from onsite or adjacent residents or students, exclusive of apparent drinking water or air contamination problems?
	☐	☒	☐	Does any offsite property warrant sampling?
	☐	☒		Other criteria? _____
	☐	☒		**RESIDENT POPULATION IDENTIFIED?**

Summarize the rationale for resident population (attach an additional page if necessary):

Site is inactive, consequently no workers are on-site.
NO residences, schools, or day-care facilities are adjacent and within 200 feet of the site.
The closest private residence is located approximately 1/3 of a mile to the west (REF #28).
Additionally approximately 240 workers work at the Calumet Sewage Treatment Facility which is adjacent to the the site (REF #14).
Recent aerial photographs appear to show the site is unfenced, and accesible from all sides.

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Site Name: LAKE Calumet Quad 19
Date: October 1, 1991

SOIL EXPOSURE PATHWAY SCORESHEET

Pathway Characteristics	
Do any people live on or within 200 ft of areas of suspected contamination?	Yes ___ No X
Do any people attend school or day care on or within 200 ft of areas of suspected contamination?	Yes ___ No X
Is the facility active? Yes ___ No X If yes, estimate the number of workers: N/a	

	A Suspected Contamination	B No Suspected Contamination	References
LIKELIHOOD OF EXPOSURE			
1. SUSPECTED CONTAMINATION: Surficial contamination is assumed. A score of 550 is assigned. LE =	(550) 550		
RESIDENT POPULATION THREAT TARGETS			
2. RESIDENT POPULATION: Determine the number of people occupying residences or attending school or day care on or within 200 feet of areas of suspected contamination (see Soil Exposure Pathway Criteria List, page 18). ___ people x 10 =	0		
3. RESIDENT INDIVIDUAL: If you have identified any Resident Population (Factor 2), assign a score of 50; otherwise, assign a score of 0.	(50 or 0) 0		
4. WORKERS: Assign a score from the following table based on the total number of workers at the facility and nearby facilities with suspected contamination:	(15, 10, 5, or 0) 10		14
5. TERRESTRIAL SENSITIVE ENVIRONMENTS: Assign a value from PA Table 7 for each terrestrial sensitive environment that is located on an area of suspected contamination:	—		
Sum =			
6. RESOURCES: A score of 5 is assigned.	(5) 5		
T =	15		
WASTE CHARACTERISTICS			
7. Assign the waste characteristics score calculated on page 4. WC =	(100, 32, or 18) 32		

RESIDENT POPULATION THREAT SCORE:	LE x T x WC / 82,500	(Maximum of 100) 3
NEARBY POPULATION THREAT SCORE: *Assign a score of 2*		2
SOIL EXPOSURE PATHWAY SCORE:		(Maximum of 100) 5

Number of Workers	Score
0	0
1 to 100	5
101 to 1,000	10
>1,000	15

Terrestrial Sensitive Environment Type	Value
N/a	

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Site Name: Lake Calumet Quad 20
Date: October 1, 1991

PA TABLE 7: SOIL EXPOSURE PATHWAY
TERRESTRIAL SENSITIVE ENVIRONMENT VALUES

Terrestrial Sensitive Environment	*Assigned Value*
Terrestrial critical habitat for Federally designated endangered or threatened species National Park Designated Federal Wilderness Area National Monument	100
Terrestrial habitat known to be used by Federally designated or proposed threatened or endangered species National Preserve (terrestrial) National or State terrestrial Wildlife Refuge Federal land designated for protection of natural ecosystems Administratively proposed Federal Wilderness Area Terrestrial areas utilized by large or dense aggregations of animals (vertebrate species) for breeding	75
Terrestrial habitat used by State designated endangered or threatened species Terrestrial habitat used by species under review for Federally designated endangered or threatened status	50
State lands designated for wildlife or game management State designated Natural Areas Particular areas, relatively small in size, important to maintenance of unique biotic communities	25

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AIR PATHWAY CRITERIA LIST

Site Name: LAKE Calumet Quad
Date: October 1, 1991

This chart provides guidelines to assist you in hypothesizing the presence of a suspected release. It is expected that not all of this information will be available during the PA. Also, these criteria are not all-inclusive; list any other criteria you use to hypothesize a suspected release. This chart will record your professional judgment in evaluating this factor.

The "Suspected Release" section of the chart guides you through evaluation of some conditions to help hypothesize whether a release from the site is likely. For the Air Pathway, if a release is suspected, "Primary Targets" are any residents, workers, students, or sensitive environments within ¼ mile of the site.

Check the boxes to indicate a "yes", "no", or "unknown" answer to each question. If you check the "Suspected Release" box as "yes", make sure that you assign a Likelihood of Release value of 550 for the pathway.

AIR PATHWAY

SUSPECTED RELEASE				*PRIMARY TARGETS*
Yes	No	Unknown		
☐	☒	☐	Have odors been reported?	*If you suspect a release to air, evaluate all populations and sensitive environments within ¼ mile (including those onsite) as Primary Targets.*
☐	☒	☐	Has a release of hazardous substances to the air been directly observed?	
☐	☒	☐	Are there any reports of adverse health effects (e.g., headaches, nausea, dizziness) potentially resulting from migration of hazardous substances through the air?	
☐	☒	☐	Is there any circumstantial evidence of an air release?	
☐	☒		Other criteria? _____	
☐	☒		**SUSPECTED RELEASE?**	

Summarize the rationale for suspected release (attach an additional page if necessary):

Limited sampling at the site may not adequately define all contamination present. Additionally, the grain elevator (where liquid waste was stored in the basement) was demolished and was covered over. It is not known if the structure was adequately covered. It is not known if the site has the potential for an air release due to limited information

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Site Name: Lake Calumet Quad
Date: October 1, 1991

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AIR PATHWAY SCORESHEET

Pathway Characteristics	
Do you suspect a release (see Air Pathway Criteria List, page 21)?	Yes ___ No X
Distance to the nearest individual:	1320 ft

	A Suspected Release	B No Suspected Release	References
LIKELIHOOD OF RELEASE			
1. SUSPECTED RELEASE: If you suspect a release to air (see page 21), assign a score of 550, and use only column A for this pathway.	[550]		
2. NO SUSPECTED RELEASE: If you do not suspect a release to air, assign a score of 500, and use only column B for this pathway.		[500] 500	
LR =		500	
TARGETS			
3. PRIMARY TARGET POPULATION: Determine the number of people subject to exposure from a release of hazardous substances through the air (see Air Pathway Criteria List, page 21). ___ people x 10 =			
4. SECONDARY TARGET POPULATION: Determine the number of people within the 4-mile target distance limit, and assign the total population score from PA Table 8.		120	30, 23, 24, 26, 28
5. NEAREST INDIVIDUAL: If you have identified any Primary Targets for the air pathway, assign a score of 50; otherwise, assign the highest Nearest Individual score from PA Table 8.	[50, 20, 7.2.1, or 0]	[20, 7.2.1, or 0] 20	
6. PRIMARY SENSITIVE ENVIRONMENTS: Sum the sensitive environment values (PA Table 5) and wetland acreage values (PA Table 9) for environments subject to exposure from air hazardous substances (see Air Pathway Criteria List, page 21).			31, 12, 13
Sensitive Environment Type / Value: Wetlands within 1/4 mile = 25; Federal End. Species Habitat = 100			
Sum =			
7. SECONDARY SENSITIVE ENVIRONMENTS: Use PA Table 10 to determine the score for secondary sensitive environments.		1	
8. RESOURCES: A score of 5 is assigned.	[5] 5	[5] 5	
T =		146	
WASTE CHARACTERISTICS			
9. A. If you have identified any Primary Targets for the air pathway, assign the waste characteristics score calculated on page 4, or a score of 32, whichever is GREATER; do not evaluate part B of this factor.	[100 or 32]		
B. If you have NOT identified any Primary Targets for the air pathway, assign the waste characteristics score calculated on page 4.	[100, 32, or 18]	[100, 32, or 18] 32	
WC =		32	

AIR PATHWAY SCORE: LR x T x WC / 92,500 = [Subject to a maximum of 100] 28

Site Name: LAKE Calumet Quad
Date: October 1, 1991

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PA TABLE 8: VALUES FOR SECONDARY AIR TARGET POPULATIONS

Distance from Site	Population	Nearest Individual (choose highest)	Population Within Distance Category: 1 to 10	11 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	1,000,001 to 3,000,000	Population Value
Onsite	0	20	1	2	5	16	52	163	521	1,633	5,214	16,325	52,136	163,246	0
0 to ¼ mile	105	(20)	1	1	1	(4)	13	41	130	408	1,303	4,081	13,034	40,811	4
¼ to ½ mile	3030	2	0	0	1	1	3	9	(28)	88	282	882	2,815	8,815	28
½ to 1 mile	12,210	1	0	0	0	1	1	3	8	(26)	83	261	834	2,612	26
1 to 2 miles	75,659	0	0	0	0	0	1	1	3	8	(27)	83	266	833	27
2 to 3 miles	93,370	0	0	0	0	0	1	1	1	4	(12)	38	120	376	12
3 to 4 miles	185,999	0	0	0	0	0	0	1	1	2	7	(23)	73	229	23
Nearest Individual =		20											Score =		120

PA TABLE 9: AIR PATHWAY VALUES FOR WETLAND AREA

Wetland Area	Assigned Value
Less than 1 acre	0
1 to 50 acres	25
Greater than 50 to 100 acres	75
Greater than 100 to 150 acres	125
Greater than 150 to 200 acres	175
Greater than 200 to 300 acres	250
Greater than 300 to 400 acres	350
Greater than 400 to 500 acres	450
Greater than 500 acres	500

PA TABLE 10: DISTANCE WEIGHTS AND CALCULATIONS FOR AIR PATHWAY SECONDARY SENSITIVE ENVIRONMENTS

Distance	Distance Weight	Sensitive Environment Type and Value (from PA Table 5 or 9)	Product
Onsite	0.10	x	
		x	
0-1/4 mi	0.025	x 25 Wetlands (<50 acres)	0.625
		x	
		x	
1/4 1/2mi	0.0054	x	
		x Federal Endangered Specie Habitat (100)	0.54
		x	
		x	
Total Environments Score =			1.17

Site Name: LAKE Calumet Area 24
Date: October 1, 1991

SITE SCORE CALCULATION

	S	S^2
GROUND WATER PATHWAY SCORE (S_{gw}):	1	1
SURFACE WATER PATHWAY SCORE (S_{sw}):	100	10,000
SOIL EXPOSURE PATHWAY SCORE (S_{se}):	5	25
AIR PATHWAY SCORE (S_a):	28	784
SITE SCORE: $\sqrt{\frac{S_{gw}^2+S_{sw}^2+S_{se}^2+S_a^2}{4}}$ =		52

RECOMMENDATION

High Priority. The site may contribute to additional scoring under HRS of the U.S. Scrap. Additionally, past sampling may not have adequately defined contamination at the site.

SUMMARY

	YES	NO
1. Is there a high possibility of a threat to nearby drinking water wells by migration of hazardous substances in ground water?	☐	■
A. If yes, identify the wells recommended for sampling during the SI.		
B. If yes, how many people are served by these threatened wells?		
2. Are any of the following suspected to have been exposed to hazardous substances through surface water migration from the site?		
A. Drinking water intake	☐	■
B. Fishery	■	☐
C. Sensitive environment: wetland, critical habitat, others	■	☐
D. If yes, identify the targets recommended for sampling during the SI. 48" Storm drain leading to Slip # 1, LAKE Calumet		
3. Do people reside or attend school or day care on or within 200 ft of any area of suspected contamination?	☐	■
4. Are there public health concerns at this site that are not addressed by PA scoring considerations? If yes, explain:	☐	☐

Lake Calumet Quad
October 1, 1991

No

Photographs

AVAILABLE

Lake Calumet Quad
October 1, 1991

REFERENCE DOCUMENTATION SHEET

Ref. #	DESCRIPTION OF REFERENCE
1	Planning Research Corporation, November 17, 1986 Interrelationship Report of Martell Sites and Companies in the South Chicago and Northwest Indiana Areas, Draft Revised Report, prepared for U.S. EPA, by Versar Inc., Chicago, IL.
2	Planning Research Corporation, June 16, 1986, Martell Sites Responsible Party Search, Draft Final Report, prepared for U.S. EPA, by Versar, Inc., Chicago, IL.
3	U.S. EPA, November 22, 1982, Notification of Hazardous Waste Site, form 103(c), corrected copy originally submitted on June 11, 1981, prepared by Demetri Konstantelos, Penn Central Corp., Rosemont, IL.
4	State of Illinois, Attorney General, Environmental Div., April 26, 1982, Contamination Survey for U.S. Scrap Corporation and Penn Central Corp. in Chicago, IL., prepared by STS consultants, LTD., Northbrook, IL.

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REFERENCE DOCUMENTATION SHEET

Ref.#	DESCRIPTION OF REFERENCE
5	FIT, JUNE 23, 1986, INSPECTION REPORT FOR PENN CENTRAL, CHICAGO, IL, U.S. EPA # 980600360Z, ROS-8303-01B, prepared by Thomas C. Gladaw, Ecology & Environment, Inc., Chicago, IL.
6	FIT, July 17, 1989, Special Study Report for U.S. Scrap, Chicago, Illinois; U.S. EPA ID #980794484, prepared by Jeffrey D. Carmen, Kristian L. Webb, and Robert Ellison, of Ecology & Environment, Chicago, IL.
7	Fox, Barbara, January 30, 1990, Water Engineer, Chicago Water Dept., Telephone Interview Conducted by Chuck Hall of E & E.
8	Ortegon, Caroline, April 8, 1991, Lab Supervisor, Hammond Water Filtration, Hammond, Indiana, Fascimile transmission, to Todd Rumaly of E & E., RE: Location of Surface Water Intakes on LAKE Michigan.

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REFERENCE DOCUMENTATION SHEET

Ref.#	DESCRIPTION OF REFERENCE
9	Seydel, Kalec, April 8, 1991, Lab Analyst, Hammond Water Filtration, Hammond, Indiana, telephone conversation, contacted by Todd Ramaly of E&E.
10	Fitzgerald, K.K.; Hayes P.D.; Richards, J.F.; Stohl, R.L.; Water Resources Data, Illinois Water Year 1986, U.S.G.S Water Data Report, IL-86-2, Volume 2., Illinois River Basin, Prepared by U.S.G.S, et al, Urbana, IL.
11	IEPA, March 1986, The Southeast Chicago Study: An Assessment of Environmental Pollution and Public Health Impacts, Environmental Programs, Springfield, Illinois.
12	Lowry, Gerald, March 30, 1989, Endangered Species Manual, Great Lakes Region, U.S. Fish & Wildlife Service, Twin Cities, Minnesota.

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REFERENCE DOCUMENTATION SHEET

Ref.#	DESCRIPTION OF REFERENCE
13	Natural Land INSTITUTE, January 1981, Endangered and Threatened Species of Illinois, published by the Illinois Dept. of Conservation, Springfield, IL
14	Metropolitan Water Reclamation District of Greater Chicago, September 30, 1991, unidentified employee, telephone conversation, contacted by DAVID Szaflarski of E & E.
15	IEPA, June 24, 1980, Div. of LAND/NOISE Pollution Control, Special Waste Disposal Application, waste Generator, PENN Central Corp.; WASTE Hauler, Chemical Waste Mgt. of Illinois; reviewed by T. E Cavanaugh RE: AQUEOUS Waste cleanup From GRAIN storage Tank.
16	IEPA, JUNE 20, 1980, Special Analysis Form, DLPC/NPC, RE: Sample X101 from basement of GALVEY Grain Elevator taken on 6-17-80 (see also observation report filed by MARY Schroeder, IEPA, microfiche).

Lake Calumet Quad
October 1, 1991

REFERENCE DOCUMENTATION SHEET

Ref.#	DESCRIPTION OF REFERENCE
17	MSD, MARCH 12, 1974, Industrial Waste Division, Field Operation, Special Investigation 4631, prepared by S. Whitebloom, employee MSD, RE: Discolored material entering drainage ditch from Penn Central Site.
18	MSD, MAY 27, 1974, Interoffice memorandum, prepared by Cecil Lue-Hing, Director Research and Development, RE: Recommendation for Show Cause, U.S. Scrap Co.
19	MSD, October 29, 30, 1974, Industrial Waste Division, Field Operation, Special Investigation 4631, prepared by J. Corcoran, PCO II, and C. Meyers PCO I, Re: Garvey Grain Elevator drainage
20	MSD, Nov 6, 7, 1974, Industrial Waste Division, Field Operation, Special Investigation 4631, prepared by J. Corcoran PCO II/A, and A. Boehme, PCO I, Re: Discharge entering storm ditch

Lake Calumet Quad
October 1, 1991

REFERENCE DOCUMENTATION SHEET

Ref.#	DESCRIPTION OF REFERENCE
21	MSD, June 20, 1975, Industrial Waste Division, Field Operation, Special Investigation, prepared by James J. Cocoran, P.C.O. II, Re: Discharge from slough to drainage.
22	MSD, March 4, 1976, Industrial Waste Division, Field Operation, Special Investigation, prepared by J. Cocoran, PCO II, Re: Discharge from slough to storm ditch to Lake Calumet.
23	U.S.G.S, 1963, Blue Island, Illinois Quadrangle, 7.5 minute series. scale 1:24,000. photorevised 1973.
24	——, 1963, Harvey, Illinois Quadrangle, 7.5 minute series, scale 1:24,000. photorevised 1973.

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Ref. #	DESCRIPTION OF REFERENCE
25	——, 1973 b, Sag Bridge, Illinois Quadrangle, 7.5 minute series; 1:24,000
26	——, 1965, photorevised 1973, Lake Calumet, Illinois-Indiana Quadrangle, 7.5 minute series: 1:24,000
27	——, 1980, Whiting, Indiana Quadrangle, 7.5 minute series: 1:24,000
28	——, 1968, photorevised 1980, Calumet City, Illinois-Indiana, 7.5 minute series: 1:24,000

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REFERENCE DOCUMENTATION SHEET

Ref.#	DESCRIPTION OF REFERENCE
29	———, 1973a, Palos Park, Illinois Quadrangle, 7.5 minute series, scale 1:24,000.
30	U.S. Bureau of the Census, 1982, 1980 Census of Population, Characteristics of the Population, General Population Characteristics of Illinois, Washington D.C.
31	U.S. Dept. of the Interior, U.S. Fish & Wildlife Service, LAKE Calumet, IL-IND, WETLAND MAP, Prepared by NATIONAL WETLANDS INVENTORY, TWIN CITIES MN. INNESOTA, SCALE: 1:24,000, DATED 5-83.